General

Guideline Title

Prenatal care.

Bibliographic Source(s)

University of Michigan Health System. Prenatal care. Ann Arbor (MI): University of Michigan Health System (UMHS); 2013 Dec. 17 p. [19 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Note from the University of Michigan Health System (UMHS) and the National Guideline Clearinghouse (NGC): The following guidance was current as of December 2013. Because UMHS occasionally releases minor revisions to its guidance based on new information, users may wish to consult the original guideline document for the most current version.

Note from NGC: The following key points summarize the content of the guideline. Refer to the full text for detailed information on each of the screening procedures.

The strength of recommendation (I-III) and levels of evidence (A-D) are defined at the end of the "Major Recommendations" field.

Key Points

Prenatal Care Summary

Main aspects of prenatal care (history and examination, testing and treatment, and education and planning) are summarized from preconception through delivery in Table 1 in the original guideline document.

Fetal Surveillance

Common indications for antepartum fetal surveillance and gestational age at which to initiate testing as well as frequency of testing are presented in Table 2 in the original guideline document.

Referral

Indications for referral are summarized in Table 3 in the original guideline document.

Important Care Aspects

Assess risk factors. For all women, perform a history and physical that includes a risk assessment with a goal of identifying risk factors for adverse pregnancy outcome *[I-D]*.

Visit timing and frequency. For average risk women, the first prenatal visit should be an intake at 6 to 8 weeks, with provider review and a follow-up office visit at 10 to 12 weeks. Subsequent visits may occur on a schedule of every 4 to 6 weeks until 34 weeks, then every 2 weeks until 37 weeks, and weekly thereafter *[I-C]*.

Progesterone therapy. Progesterone should be offered to patients who have a history of prior spontaneous preterm birth or who are found to have a shortened cervix on ultrasound *[I-A]*.

Sexually transmitted infection (STI) testing. Test all women for sexually transmissible infections including human immunodeficiency virus (HIV). Patients at risk for STIs during pregnancy should be retested in the third trimester *[I-A]*.

Estimated delivery date (EDD). Establish a patient's EDD prior to 20 weeks, with consideration given to menstrual history, mode of conception, and sonographic findings using standardized criteria (refer to the "Delivery Planning" section in the original guideline document) *[I-C]*.

Diabetes risk. At the first prenatal visit evaluate risk factors for diabetes and test high-risk patients *[I-C]*. Screen all women without a diagnosis of diabetes for gestational diabetes at 24 to 28 weeks using a 50 gram glucose challenge with a cutoff of ≥135 mg/dl at 1 hour *[1-A]*.

Tetanus diphtheria and pertussis (Tdap) vaccination. Offer Tdap vaccination to all women. This is optimally performed at 27 to 36 weeks in order to facilitate passive immunization of newborns for pertussis *[I-D]*.

No non-medically-indicated delivery <39 weeks. Non-medically-indicated planned delivery before 39 weeks' gestation is contraindicated *[III-B]*.

Definitions:

Level of Evidence

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

Strength of Recommendation

I. Generally should be performed
II. May be reasonable to perform
III. Generally should not be performed

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Pregnancy

Guideline Category

Counseling

Evaluation

Management

Prevention

Risk Assessment

Screening

Treatment

Clinical Specialty

Family Practice

Obstetrics and Gynecology

Pediatrics

Preventive Medicine

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

- To promote maternal and infant health
- To reduce maternal mortality and morbidity and fetal loss
- To reduce preterm birth, intrauterine growth restriction, congenital anomalies, and failure to thrive

Target Population

Women of childbearing age, pregnant women, and their fetuses

Interventions and Practices Considered

1. History and physical examination
2. Patient education and planning
3. Antepartum fetal surveillance
4. Risk assessment for adverse pregnancy outcome and indication for referral for high-risk pregnancy
5. Establishment of visit timing and frequency
6. Progesterone therapy for patients with a history of prior spontaneous preterm birth
7. Sexually transmitted infection (STI) screening
8. Establishing of estimated delivery date (EDD)
9. Evaluation of diabetes risk
10. Tetanus, diphtheria and pertussis (Tdap) vaccination

11. Avoidance of non-medically-indicated planned delivery before 39 weeks gestation

Major Outcomes Considered

- Maternal morbidity and mortality
- Incidence of fetal loss
- Incidence and severity of complications of pregnancy

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

For this update the initial evidence base was the literature search performed to develop the 2006 version of this guideline. The team accepted the literature search performed to produce the Veterans Administration (VA)/Department of Defense (DoD) and Veterans Administration to produce the VA/DoD Practice Guideline for Pregnancy Management (2009). That search included literature through December 2007. A MEDLINE search for literature published since that time was performed. The search was conducted prospectively using the major key words of pregnancy (prenatal care); guidelines, controlled trials, cohort studies; published from 1/1/08 through 1/31/12, women (adolescent, adult), English language. Specific searches were performed for: Genetic screening & counseling (hemoglobinopathies, cystic fibrosis, Ashkenazi Jews), Nutrition counseling (folic acid, calcium supplementation, diet/foods), other counseling (weight gain in pregnancy, exercise, contraception counseling), Laboratory studies (rubella titer, hemoglobin/hematocrit, Hepatitis B surface antigen, HIV, Rh factor blood type, urine culture or urinalysis, screening for sexually transmitted disease, Pap smear, hypothyroidism, TB testing), comorbid conditions (obesity, depression, domestic violence, recurrent preterm birth, herpes simplex management, prenatal visits (frequency, urine dipstick, fetal growth assessment, fetal imaging/ultrasound, gestational age determination, screening for aneuploidy, screening for neural tube defects, screening for diabetes/gestational diabetes, anemia, preeclampsia, gestational hypertension, fetal movement counts, group B streptococcus, breech, membrane sweeping, identification of a pediatrician, delivery (timing, repeat cesarean delivery and vaginal birth after cesarean delivery, elective primary cesarean delivery), breast feeding, indications for referral to high risk care, cultural sensitivity.

The searches were supplemented with recent clinical trials known to expert members of the panel. The search was single cycle.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Level of Evidence

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Conclusions were based on prospective randomized clinical trials (RCTs) if available, to the exclusion of other data. If RTCs were not available, observational studies were admitted to consideration. If no such data were available, expert opinion was used to estimate effect size.

Rating Scheme for the Strength of the Recommendations

Strength of Recommendation

I. Generally should be performed
II. May be reasonable to perform
III. Generally should not be performed

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Drafts of this guideline were reviewed in clinical conferences and by distribution for comment within departments and divisions of the University of Michigan Medical School to which the content is most relevant: Family Medicine, Obstetrics/Gynecology, and Pediatrics. The guideline was approved by the Perinatal Joint Practice Committee and the Executive Committee of the University of Michigan C. S. Mott Children's Hospital and Von Voightlander Women's Hospital. The final version was endorsed by the Clinical Practice Committee of the University of Michigan Faculty Group Practice and the Executive Committee for Clinical Affairs of the University of Michigan Hospitals and Health Centers.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Conclusions were based on prospective randomized clinical trials (RCTs) if available, to the exclusion of other data. If RCTs were not available, observational studies were admitted to consideration. If no such data were available for a given link in the problem formulation, expert opinion was

used to estimate effect size.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate evaluation and management of women and their fetuses from preconception through pregnancy

Potential Harms

Chorionic villus sampling (CVS) and amniocentesis are invasive procedures that provide diagnostic information but carry risk for pregnancy loss.

Contraindications

Contraindications

Non-medically-indicated planned delivery before 39 weeks' gestation is contraindicated.

Qualifying Statements

Qualifying Statements

These guidelines should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific clinical procedure or treatment must be made by the physician in light of the circumstances presented by the patient.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Dec

Guideline Developer(s)

University of Michigan Health System - Academic Institution

Source(s) of Funding

University of Michigan Health System

Guideline Committee

Prenatal Care Guideline Team

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No member of the Prenatal Care Guideline Team has relationships with commercial companies whose products are discussed in this guideline.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the University of Michigan Health System (UMHS) Web site .

Availability of Companion Documents

Continuing Medical Education (CME) information is available from the University of Michigan Health System (UMHS) Web site .

Patient Resources

Several patient-education handouts on various topics associated with prenatal care are available from the University of Michigan Health System (UMHS) Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

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